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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/074,591	02/13/2002	Lysander Lim	SILA:096	6213

7590 10/20/2004
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EXAMINER

CHO, UN C

ART UNIT	PAPER NUMBER
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2687

DATE MAILED: 10/20/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/074,591

Applicant(s)

LIM ET AL.

Examiner

Un C Cho

Art Unit

2687

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 3-35 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1,3-6,11-15 and 26-35 is/are rejected.
- 7) ☒ Claim(s) 7-10 and 16-25 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 February 2002 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 13,14 and 15.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

2. Claims 1 and 26 are rejected under 35 U.S.C. 102(e) as being anticipated by Yamaguchi et al. (US 5,966,666).

Regarding claim 1, Yamaguchi teaches a radio-frequency apparatus capable of transmitting radio-frequency signals, the radio-frequency apparatus comprising a voltage-controlled oscillator circuitry (voltage-controlled oscillator, Fig. 1, 32) configured to generate a first signal that has a first frequency (output of the voltage-controlled oscillator) and a divider circuitry (frequency division and distribution section, Fig. 1, 33) being responsive to the first signal, the divider circuitry configured to generate a second signal (output of the frequency division

and distribution section) that has a second frequency, wherein the second frequency equals the first frequency divided by a number (Yamaguchi, Col. 3, lines 13 – 23).

Regarding claim 26, the claim is interpreted and rejected for the same reason as set forth in claim 1.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 3 – 6, 27 – 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamaguchi in view of Damgaard et al. (US 6,208,875).

Regarding claim 3, Yamaguchi discloses the radio-frequency apparatus according to claim 1.

However, Yamaguchi does not specifically disclose a first switch coupled to the voltage-controlled oscillator circuitry, the first switch configured to generate a switched first signal by selectively supplying the first signal to a first output. On the other hand, Damgaard discloses a combiner or switch (Fig. 1, 63) configured to generate a switched first signal by selectively supplying the first signal to a first output (Damgaard, Col. 4, lines 43 – 60). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the

technique of Damgaard to the system of Yamaguchi in order to provide a dual band RF cellular phone architecture, which adds as little circuit complexity as possible as compared to a single band design.

Regarding claim 4, Yamaguchi in view of Damgaard as applied to claim 3 above discloses a second switch coupled to the divider circuitry (Switch, Fig. 2, 55, coupled to the frequency divider), the second switch configured to generate a switched second signal by selectively supplying the second signal to a second output (Yamaguchi, Col. 6, lines 4 – 16).

Regarding claim 5, Yamaguchi in view of Damgaard as applied to claim 3 above discloses a feedback circuitry coupled to the voltage-controlled oscillator circuit (signal, Fig. 1, 67, coming out of VCO, Fig. 1, 57 or 59 and feeding back), the feedback circuitry configured to adjust the first frequency (Damgaard, Col. 4, lines 43 – 60).

Regarding claim 6, Yamaguchi in view of Damgaard as applied to claim 3 above discloses that the feedback circuitry (feedback circuitry composed of PLL) adjusts the first frequency in response to a feedback signal (signal, Fig. 1, 67) derived from the switched (combiner or switch, Fig. 1, 63) first and second signals (signals coming out of the VCO, Fig. 1, 57 or 59) (Damgaard, Col. 4, lines 43 – 60).

Regarding claim 27, the claim is interpreted and rejected for the same reason as set forth in claim 3.

Regarding claim 28, the claim is interpreted and rejected for the same reason as set forth in claim 4.

Regarding claim 29, the claim is interpreted and rejected for the same reason as set forth in claim 5.

Regarding claim 30, the claim is interpreted and rejected for the same reason as set forth in claim 6.

Regarding claim 31, Yamaguchi in view of Damgaard as applied to claim 3 above discloses selectively supplying as the feedback signal one of the switched first and second signals (selected signal coming out of VCO, Fig. 1, 57 or 59, is passed through the switch and is fed back, Damgaard, Col. 4, lines 52 – 60).

Regarding claim 32, Yamaguchi in view of Damgaard as applied to claim 3 above discloses using the switched first and second signals for multi-band radio frequency transmission (Damgaard, Col. 3, lines 40 – 45 and Col. 4, lines 52 – 60).

Regarding claim 33, Yamaguchi in view of Damgaard as applied to claim 3 above discloses using one of the switched first and second signals for transmission within the DCS 1800 standard (Damgaard, Col. 3, lines 40 – 45 and Col. 4, lines 43 – 60).

Regarding claim 34, Yamaguchi in view of Damgaard as applied to claim 3 above discloses using one of the switched first and second for transmission within the GSM 900 standard (Damgaard, Col. 3, lines 40 – 45 and Col. 4, lines 43 – 60).

Regarding claim 35, Yamaguchi in view of Damgaard as applied to claim 3 above discloses using the switched first signal for transmission within the DCS 1800 standard, and using the switched second signal for transmission within the GSM 900 standard (the switch, Fig. 1, 63 selectively outputs first and second signal coming out of VCO, Fig. 1, 57 or 59 for transmission within the DCS or GSM standard, Damgaard, Col. 3, lines 40 – 45 and Col. 4, lines 43 – 60).

Allowable Subject Matter

5. Claims 7 – 10 and 16 – 25 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
6. The following is a statement of reasons for the indication of allowable subject matter:

Regarding claim 7, Yamaguchi in view of Damgaard discloses feedback circuitry (Damgaard, Col. 4, lines 43 – 60), first (Damgaard, Col. 4, lines 43 – 60) and second (Yamaguchi, Col. 6, lines 4 – 16) switches. However, Yamaguchi and Damgaard either alone or in combination fails to disclose the feedback circuitry comprising a third switch coupled to the first and second switches, the third switch configured to selectively supply as the feedback signal one of the switched first and second signals.

Regarding claim 16, the claim is interpreted and objected for the same reason as set forth in claim 7.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Matero (US 6,215,988) discloses a dual band user terminal including a controller for outputting a band signal for specifying operation in one of a first frequency band or a second, higher frequency band.

Damgaard et al. (US 6,150,890) discloses a dual band wireless phone for a mobile communications system with a dual band transmitter that includes a PLL.

Nakayama et al. (US 6,175,746) discloses a multi-band mobile unit communication apparatus.

Auvray (US 5,953,641) discloses a multimode radio communication terminal including a tunable source of transmit and/or receive local oscillator signals for transmitting and/or receiving channels of different frequency bands in at least two radio communication systems.

Freed (US 5,900,785) discloses a mechanism for reducing a frequency transient appearing at the output of a voltage controlled oscillator in a frequency synthesizer when a load is connected to the VCO.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Un C Cho whose telephone number is (703) 305-8725. The examiner can normally be reached on M ~ F 8:00AM to 4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lester Kincaid can be reached on (703) 306-3016. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Un C Cho *UC* 10/15/04
Examiner
Art Unit 2687

[Signature]
10/15/04
LESTER G. KINCAID
PRIMARY EXAMINER